

AMENDMENT AND RESPONSE UNDER 37 C.F.R. § 1.111  
Serial Number: 10/756,553  
Filing Date: January 13, 2004

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### REMARKS

This responds to the Final Office Action mailed on July 10, 2007. Reconsideration is respectfully requested.

Claims 1, 3 – 5, 14 and 21 are amended, claims 6 – 10, 15 – 18, and 24 – 27 were previously canceled; as a result, claims 1 – 5, 11 – 14, and 19 – 23 are now pending in this application.

#### §103 Rejection of the Claims

Claims 1-4, 11-14, 19 and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Silcott (U.S. 20030098422) in view of Spremo (U.S. 6,930,775).

Applicants' invention, as recited in claim 1, is directed to the detection of bioagents using two closely-spaced ultraviolet (UV) wavelengths by fluorescing a *single* aromatic protein with *both* wavelengths.

Silcott's bioagent detection system emphasizes the use of a *single wavelength* (see Silcott paragraph [0048] lines 7 – 8 and paragraph [0050]) to detect a particular biological particle. According to the Examiner, Silcott does not generate first and second ultraviolet wavelengths (page 4 of the Office Action dated February 16, 2006). Applicants agree with this and submit that this was the reason that Dai was cited in that office action.

According to the Examiner, Silcott also fails to disclose a blaze grating to separate UV light into first and second wavelengths having a wavelength separation therebetween of no more than 5 nanometers (see page 3 paragraph 1 of the Final Office action). Applicants agree with this and further submit that Silcott fails to disclose *any* separation of UV light into first and second wavelengths for correlating detected fluorescence levels of a *single* aromatic protein. The reason that Silcott fails to disclose any type of apparatus to separate UV light into first and second wavelengths is that Silcott only uses one wavelength (see Silcott paragraph [0048] lines 7 – 8 and paragraph [0050]).

The Examiner has cited Spremo for disclosing a Blaze grating to separate wavelengths and provides the following rationale for combining Silcott with the Blaze gratings of Spremo.

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"In the system of Silcott, this [separation into distinct wavelengths] would have allowed one to ensure that the detected fluorescence is derived from the presence of analyte, rather than from background fluorescence produced from interaction with wavelengths that are not specific to the analyte" (see lines 2 – 4 on page 4 of the Final Office action).

Applicants respectfully disagree with this rationale because it *defeats the purpose* of Applicants' claimed invention. Applicants' claim 1 recite that *both wavelengths cause a single aromatic protein to fluoresce*. The detected fluorescence levels of *both* the wavelengths are correlated with the atmospheric absorption levels (see claim 1). Thus, both wavelengths are used to determine whether a single aromatic protein has an elevated presence in the atmosphere. Claim 1 has been amended to clarify the fact that a single aromatic protein is fluoresced by both wavelengths.

The Examiner's rationale to separate wavelengths in Silcott is to *remove wavelengths* associated with background fluorescence produced from interaction with wavelengths that are not specific to the analyte to ensure that the detected fluorescence is derived from the presence of analyte. Under this rationale, the separated-out wavelengths are not used to fluoresce the analyte nor used to determine the atmospheric level. This directly contradicts (i.e., teaches away from) Applicants' claims which recite that two wavelengths are provided to fluoresce one aromatic protein, and that the detection of both the fluorescence levels of both wavelengths are used to determine the atmospheric level of the one aromatic protein. Therefore, under the Examiner's rationale, there is no reason or motivation to combine Silcott with Spremo in such a way to result in Applicants' claimed invention.

Applicants further submit that in accordance with the Examiner's rationale for combining Silcott with Spremo, it would not be possible to remove those wavelengths associated with background fluorescence produced from interaction with wavelengths that are not specific to the analyte if the wavelengths are spaced apart by no more than 5 nanometers as recited in Applicants' claim 1. This is because wavelengths that are spaced apart by no more than 5 nanometers will fluoresce same analyte because of their close spacing. However, the two wavelengths spaced apart by no more than 5 nanometers may be selected to have different atmospheric absorption levels and yet fluoresce the single aromatic protein. Therefore, under the

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Examiner's rationale, there is no reason or motivation to combine Silcott with Spremo to result in Applicants' claimed invention.

Since the Examiner's rationale for combining Silcott with Spremo both defeats the purpose of and teaches away from Applicants' claimed invention, this rationale cannot be used to combine Silcott with Spremo for the rejection of Applicants' claims under 35 U.S.C. § 103(a). Accordingly, Applicants submit that the rejection of Applicants' claims 1-4, 11-14, 19, and 20 under 35 U.S.C. § 103(a) has been overcome.

Claim 5 was rejected under 35 USC § 103(a) as being unpatentable over Silcott in view of Spremo as applied to claim 1, and further in view of Dai (U.S. 20030230728).

Claims 21 and 23 were rejected under 35 USC § 103(a) as being unpatentable over Silcott in view of Spremo as applied to claims 15 and 20, and further in view of Petrich (U.S. 20030160182).

Claim 22 was rejected under 35 USC § 103(a) as being unpatentable over Silcott in view of Spremo as applied to claim 5, and further in view of Reichert (U.S. 6,911,344) or Giebeler (6,313,471).

The rejections of claims 5, 21, 22, and 23 are believed to have been overcome by the discussion above.

### **CONCLUSION**

Applicants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney (310) 647-2577 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-0616.

### **Reservation of Rights**

In the interest of clarity and brevity, Applicants may not have addressed every assertion made in the Office Action. Applicants' silence regarding any such assertion does not constitute any admission or acquiescence. Applicants reserves all rights not exercised in connection with

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this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicants do not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicants timely object to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicant reserves all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

Respectfully submitted,  
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